



August 8, 2019

Mr. Munaf Khan
NVL Field Services Division
4708 Aurora Ave. N.
Seattle, 98103

Re: **NVL Batch 1916722.00**

Project Name/Number: 2012-494

Project location: 3100 Airport Way South Seattle, WA 98134

Dear Mr. Khan,

Enclosed please find test results for samples submitted to our laboratory for analysis. Preparation and analysis of these samples were conducted in accordance with published industry standards and methods specified on the attached analytical report.

The content of this package consists of the following:

- Case Narrative & Definition of Data Qualifiers
- Analytical Test Results
- Applicable QC Summary
- Client Chain-of-Custody (CoC)
- NVL Receiving Record

The report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client will be discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance, please contact us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

A handwritten signature in black ink, appearing to read "Nick Ly".

Nick Ly, Technical Director

Enclosure: Sample Results

Phone: 206.547.0100 | Fax: 206.634.1936 | Toll Free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North | Seattle, WA 98103

Case Narrative:

The following summarizes samples received on date as shown on the accompanied Chain of custody by NVL Laboratories, Inc. from NVL Field Services Division for Project Number: 2012-494. Samples were logged in for PCB analysis per client request using both customer sample ID's and laboratory assigned ID's as listed on the Chain-of-Custody (CoC). All samples as received were processed and analyzed within specified turnaround time without any abnormalities and deviations that may affect the analytical results. All quality control requirements were acceptable unless stated otherwise. The conditions of all samples were acceptable at time of receipt and all samples submitted with this batch were analyzed unless stated otherwise on the CoC.

Test Results are reported based on dry weight in milligrams per kilograms (mg/kg) for PCB samples as shown on the analytical reports.

Definition Appendix

Terms

% Rec	Percent recovery.
<	Below Reporting Limit(RL) or Limit of Quantitation(LoQ) of the instrument.
B	Blank contamination. The recorded results is associated with a contaminated blank.
DF	Dilution Factor
J	The reported concentration is an estimated value because something may be present in the sample that interfered with the analysis.
J1	The reported concentration is an estimated value because the laboratory control sample (LCS) is out of control limits.
J2	The reported concentration is an estimated value because the percent recovery for matrix spike is out of control limits.
J3	The reported concentration is an estimated value because the relative percent difference(RPD) for duplicate analysis is out of control limits.
J4	Percent recovery is outside of established control limits.
LCS	Laboratory Control Sample.
LFS	Laboratory Fortified Spike
Limits	The upper and lower control limits for spike recoveries.
LN	Quality control sample is outside of control limits. This analyte was not detected in the sample.
LOQ	Limit of quantitation(same as RL)
mg/kg	Milligrams per kilogram.
ND	Analyte not detected or below the reporting limit of the instrument or methodology



Definition Appendix

Terms

PPM	Parts per Million.
QC Batch Group	Quality Control Batch Group. The entity that links analytical results and supporting quality control results.
R	The data are not reliable due to possible contamination or loss of material during preparation or analysis. Re-sampling and reanalysis are necessary for verification.
RL	Reporting Limit. The minimum concentration that can be quantified under routine operating conditions.
RPD	Relative Percent Difference. The relative difference between duplicate results(matrix spike, blank spike, or samples duplicate) expressed as a percentage.
RPD Limit	The maximum RPD allowed for a set of duplicate measurements(see RPD).
SMI	Surrogate has matrix interference.
Spike Conc.	The measured concentration, in sample basis units, of a spiked sample.
SURR-ND	Surrogate was not detected due to matrix interference or dilution.
ug/m3	Micrograms per cubic meter.
ug/mL	Micrograms per milliliter
mg/Kg	milligram per kilogram

ANALYSIS REPORT

Polychlorinated Biphenyls by Gas Chromatography



Client	NVL Field Services Division	Samples Received*	3
SDG Number	1916722.00	Analyzed By	Aaron Brown
Date Reported	08/08/2019	Samples Analyzed*	3
Project Number	2012-494	Analysis Method	8082A
Location	3100 Airport Way South Seattle, WA 98134	Preparation Method	3546PR (PCB)

* for this test only

Sample Number	080619-155-22-S1	Received	08/07/2019
Lab Sample ID	19091055	Matrix	Material
Initial Sample Size	2.2001 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	0.91	< 0.91	08/07/2019
Aroclor-1221	0.91	< 0.91	08/07/2019
Aroclor-1232	0.91	< 0.91	08/07/2019
Aroclor-1242	0.91	< 0.91	08/07/2019
Aroclor-1248	0.91	< 0.91	08/07/2019
Aroclor-1254	0.91	< 0.91	08/07/2019
Aroclor-1260	0.91	< 0.91	08/07/2019
PCBs, Total	0.91	<0.91	

Sample Number	080619-155-08-DUP1	Received	08/07/2019
Lab Sample ID	19091056	Matrix	Material
Initial Sample Size	2.101 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	0.95	< 0.95	08/07/2019
Aroclor-1221	0.95	< 0.95	08/07/2019
Aroclor-1232	0.95	< 0.95	08/07/2019
Aroclor-1242	0.95	< 0.95	08/07/2019
Aroclor-1248	0.95	< 0.95	08/07/2019
Aroclor-1254	0.95	< 0.95	08/07/2019
Aroclor-1260	0.95	< 0.95	08/07/2019
PCBs, Total	0.95	<0.95	

ANALYSIS REPORT

Polychlorinated Biphenyls by Gas Chromatography



Sample Number	080619-155-08-DUP2	Received	08/07/2019
Lab Sample ID	19091057	Matrix	Material
Initial Sample Size	2.2285 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	0.90	< 0.90	08/07/2019
Aroclor-1221	0.90	< 0.90	08/07/2019
Aroclor-1232	0.90	< 0.90	08/07/2019
Aroclor-1242	0.90	< 0.90	08/07/2019
Aroclor-1248	0.90	< 0.90	08/07/2019
Aroclor-1254	0.90	< 0.90	08/07/2019
Aroclor-1260	0.90	< 0.90	08/07/2019
PCBs, Total	0.90	<0.9	

Quality Control Results

Project Number:	2012-494	SDG Number:	1916722
		Project Manager:	Munaf Khan
QC Batch(es):	Q1025	Analysis Method:	8082A
QC Batch Method:	3546PR (PCB)	Analysis Description:	Polychlorinated Biphenyls by Gas Chromatography
Preparation Date:	08/07/2019		
Blank: MBLK-1916722			

Analyte	Blank Result	Units	DF	RL	Control Limit	Qualifiers
Aroclor-1016	ND	mg/Kg	1	1.0	1	
Aroclor-1221	ND	mg/Kg	1	1.0	1	
Aroclor-1232	ND	mg/Kg	1	1.0	1	
Aroclor-1242	ND	mg/Kg	1	1.0	1	
Aroclor-1248	ND	mg/Kg	1	1.0	1	
Aroclor-1254	ND	mg/Kg	1	1.0	1	
Aroclor-1260	ND	mg/Kg	1	1.0	1	
PCBs, Total	ND	mg/Kg	1	1.0	1	
<i>Surrogates:</i>				% Rec		
Tetrachloro-m-xylene			1	83	40-140	
Decachlorobiphenyl			1	121	40-140	

Lab Control Sample: LCS-1254-1916722

Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	% Rec Limits	Qualifiers
Aroclor-1254	21.9	mg/Kg	1	20.0	109	40-140	
<i>Surrogates:</i>							
Tetrachloro-m-xylene			1		77	40-140	
Decachlorobiphenyl			1		101	40-140	

Lab Control Sample: LCS-1016-1260-1916722**Lab Control Sample Duplicate: LCSD-1016-1260-1916722**

Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	Limits	RPD	RPD Limit	Qualifiers
Aroclor-1016	14.8	mg/Kg	1	20.0	74	40-140			
	17			20.0	85	40-140	14	50	
Aroclor-1260	21	mg/Kg	1	20.0	105	40-140			
	24.3			20.0	121	40-140	14	50	
<i>Surrogates:</i>									
Tetrachloro-m-xylene			1		71	40-140			
					87	40-140			
Decachlorobiphenyl			1		107	40-140			
					116	40-140			



Surrogate Recovery Summary Report

Client NVL Field Services Division			SDG Number	1916722
Project 2012-494				
Customer Sample ID	Lab Sample ID	Analyte	Recovery	Limits
080619-155-22-S1	19091055	Decachlorobiphenyl	137%	40-140
080619-155-22-S1	19091055	Tetrachloro-m-xylene	86%	40-140
080619-155-08-DUP1	19091056	Decachlorobiphenyl	122%	40-140
080619-155-08-DUP1	19091056	Tetrachloro-m-xylene	89%	40-140
080619-155-08-DUP2	19091057	Decachlorobiphenyl	117%	40-140
080619-155-08-DUP2	19091057	Tetrachloro-m-xylene	91%	40-140
LCS-1016-1260-1916722	LCS-1016-1260-1916722	Decachlorobiphenyl	107%	40-140
LCS-1016-1260-1916722	LCS-1016-1260-1916722	Tetrachloro-m-xylene	71%	40-140
LCS-1254-1916722	LCS-1254-1916722	Decachlorobiphenyl	101%	40-140
LCS-1254-1916722	LCS-1254-1916722	Tetrachloro-m-xylene	77%	40-140
LCSD-1016-1260-1916722	LCSD-1016-1260-1916722	Decachlorobiphenyl	116%	40-140
LCSD-1016-1260-1916722	LCSD-1016-1260-1916722	Tetrachloro-m-xylene	87%	40-140
MBLK-1916722	MBLK-1916722	Decachlorobiphenyl	121%	40-140
MBLK-1916722	MBLK-1916722	Tetrachloro-m-xylene	83%	40-140

* Recovery outside limits

**INITIAL AND CONTINUING CALIBRATION VERIFICATION**SDG No: **1916722**

Contract:

Determination: **8082 PCB Aroclors <Material>**

Run	Sample	Source	Analyzed	Analyte	True	Found	Unit	% Rec	Limits
R001018	CCV1-1016-1260	PCB_2019-1-2	08/07/2019	Aroclor-1016	5	5	ug/mL	100	80-120
		PCB_2019-1-2	08/07/2019	Aroclor-1260	5	5	ug/mL	100	80-120
	CCV1-1254	PCB_2019-1-3	08/07/2019	Aroclor-1254	5	5	ug/mL	100	80-120
	ICV 1016-1254-1260	PCB_2019-1-4	08/07/2019	Aroclor-1016	5	4.851	ug/mL	97	85-115
		PCB_2019-1-4	08/07/2019	Aroclor-1254	5	5.652	ug/mL	113	85-115
		PCB_2019-1-4	08/07/2019	Aroclor-1260	5	5.738	ug/mL	115	85-115
	CCV2-1016-1260	PCB_2019-1-2	08/07/2019	Aroclor-1016	5	5.907	ug/mL	118	80-120
		PCB_2019-1-2	08/07/2019	Aroclor-1260	5	5.976	ug/mL	120	80-120
	CCV2-1254	PCB_2019-1-3	08/07/2019	Aroclor-1254	5	5.842	ug/mL	117	80-120

% Rec = Percent recovery

* = Percent recovery not within control limits

ORGANICS LABORATORY SERVICES



Company NVL Field Services Division Address 4708 Aurora Ave. N. Seattle, WA 98103 Project Manager Mr. Munaf Khan Phone (206) 547-0100 Cell: (b) (6)	NVL Batch Number 1916722.00 TAT 2 Days AH No Rush TAT Due Date 8/9/2019 Time 9:20 AM Email munaf.k@nvlabs.com Fax (206) 634-1936
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Project Name/Number: 2012-494	Project Location: 3100 Airport Way South Seattle, WA 98134
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Subcategory Quantitative analysis

Item Code ORG-05

Method 8082 PCB Aroclors <Bulk>

Total Number of Samples 3

Rush Samples

	Lab ID	Sample ID	Description	A/R
1	19091055	080619-155-22-S1		A
2	19091056	080619-155-08-DUP1		A
3	19091057	080619-155-08-DUP2		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kenny Tran		NVL	8/7/19	0920
Analyzed by	<i>Am Brn</i>	<i>[Signature]</i>	NVL	8/7/19	13:15
Results Called by					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					
Special Instructions:					

Entered By: Kenny Tran

Date: 8/7/2019

Time: 9:23 AM

1 of 1

CHAIN of CUSTODY SAMPLE LOG

1916722

INDUSTRIAL HYGIENE SERVICES
LABORATORY • MANAGEMENT • TRAINING

Client NVL Laboratories Inc
Street 4708 Aurora Ave N
Seattle, WA 98103
Project Manager Munaf Khan
Project Location 3100 Airport Way South
Seattle, WA 98134

NVL Batch Number _____

Client Job Number 2012-494

Total Samples 3

Turn Around Time ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days
☐ 2 Hrs ☐ 1 Day ☐ 4 Days
☐ 4 Hrs ☒ 2 Days ☐ 5 Days

Please call for TAT less than 24 Hrs

Email address _____

Phone: (206) 447-0263 Fax: (206) 447-0299

<input type="checkbox"/> Asbestos Air	<input type="checkbox"/> PCM (NIOSH 7400)	<input type="checkbox"/> TEM (NIOSH 7402)	<input type="checkbox"/> TEM (AHERA)	<input type="checkbox"/> TEM (EPA Level II)	<input type="checkbox"/> Other
<input type="checkbox"/> Asbestos Bulk	<input type="checkbox"/> PLM (EPA/600/R-93/116)	<input type="checkbox"/> PLM (EPA Point Count)	<input type="checkbox"/> PLM (EPA Gravimetry)	<input type="checkbox"/> TEM BULK	
<input type="checkbox"/> Mold/Fungus	<input type="checkbox"/> Mold Air	<input type="checkbox"/> Mold Bulk	<input type="checkbox"/> Rotometer Calibration		
METALS	Det. Limit	Matrix	RCRA Metals	<input type="checkbox"/> All 8	Other Metals
<input type="checkbox"/> Total Metals	<input type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input type="checkbox"/> Arsenic (As)	<input type="checkbox"/> Chromium (Cr)	<input type="checkbox"/> All 3
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (ppm)	<input type="checkbox"/> Drinking water	<input type="checkbox"/> Barium (Ba)	<input type="checkbox"/> Lead (Pb)	<input type="checkbox"/> Copper (Cu)
<input type="checkbox"/> Cr 6	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Dust/wipe (Area)	<input type="checkbox"/> Cadmium (Cd)	<input type="checkbox"/> Mercury (Hg)	<input type="checkbox"/> Nickel (Ni)
<input checked="" type="checkbox"/> Other Types of Analysis	<input type="checkbox"/> Fiberglass	<input type="checkbox"/> Nuisance Dust	<input type="checkbox"/> Other (Specify)		<input type="checkbox"/> Zinc (Zn)
	<input type="checkbox"/> Silica	<input type="checkbox"/> Respirable Dust			

EPA 8082A-PCB BULK
REQUEST RL <1.0 PPM

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		080619-155-22-S1		
2		4 - 4 - 08-DUP1		
3		4 - 4 - 08-DUP2		
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	DAVE LEONARD	[Signature]	NVL	8-6-19	12:20
Relinquished by	DAVE LEONARD	[Signature]	NVL	8-7-19	09:15
Received by	Kerry TM	[Signature]	NVL	8/7/19	0920
Analyzed by	Ann Bm	[Signature]	NVL	8/8/19	13:15
Results Called by				8/7/19	
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.

Results report to CONCRETE REQUEST RL <1.0 PPM



Fremont
Analytical

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

NVL Labs, Inc.
Marcus Gladden
4708 Aurora Ave. N.
Seattle, WA 98103

RE: Rainier Commons
Work Order Number: 1908085

August 09, 2019

Attention Marcus Gladden:

Fremont Analytical, Inc. received 1 sample(s) on 8/7/2019 for the analyses presented in the following report.

Polychlorinated Biphenyls (PCB) by EPA 8082

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)

Original

www.fremontanalytical.com

Page 1 of 10
RCLLC 0007188

CLIENT: NVL Labs, Inc.
Project: Rainier Commons
Work Order: 1908085

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1908085-001	080619-15S-22-S2	08/06/2019 12:20 PM	08/07/2019 9:35 AM

CLIENT: NVL Labs, Inc.
Project: Rainier Commons

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate

Client: NVL Labs, Inc.
Project: Rainier Commons
Lab ID: 1908085-001

Collection Date: 8/6/2019 12:20:00 PM

Matrix: Solid

Client Sample ID: 080619-15S-22-S2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Polychlorinated Biphenyls (PCB) by EPA 8082

Batch ID: 25417

Analyst: SB

Aroclor 1016	ND	0.0925		mg/Kg	1	8/8/2019 10:20:40 AM
Aroclor 1221	ND	0.0925		mg/Kg	1	8/8/2019 10:20:40 AM
Aroclor 1232	ND	0.0925		mg/Kg	1	8/8/2019 10:20:40 AM
Aroclor 1242	ND	0.0925		mg/Kg	1	8/8/2019 10:20:40 AM
Aroclor 1248	ND	0.0925		mg/Kg	1	8/8/2019 10:20:40 AM
Aroclor 1254	ND	0.0925		mg/Kg	1	8/8/2019 10:20:40 AM
Aroclor 1260	ND	0.0925		mg/Kg	1	8/8/2019 10:20:40 AM
Aroclor 1262	ND	0.0925		mg/Kg	1	8/8/2019 10:20:40 AM
Aroclor 1268	ND	0.0925		mg/Kg	1	8/8/2019 10:20:40 AM
Total PCBs	ND	0.0925		mg/Kg	1	8/8/2019 10:20:40 AM
Surr: Decachlorobiphenyl	50.6	8.21 - 173		%Rec	1	8/8/2019 10:20:40 AM
Surr: Tetrachloro-m-xylene	57.7	20.2 - 168		%Rec	1	8/8/2019 10:20:40 AM

Work Order: 1908085
CLIENT: NVL Labs, Inc.
Project: Rainier Commons

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: MB-25417		SampType: MBLK		Units: mg/Kg		Prep Date: 8/7/2019			RunNo: 53124		
Client ID: MBLKS		Batch ID: 25417					Analysis Date: 8/8/2019			SeqNo: 1049850	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.100									
Aroclor 1221	ND	0.100									
Aroclor 1232	ND	0.100									
Aroclor 1242	ND	0.100									
Aroclor 1248	ND	0.100									
Aroclor 1254	ND	0.100									
Aroclor 1260	ND	0.100									
Aroclor 1262	ND	0.100									
Aroclor 1268	ND	0.100									
Total PCBs	ND	0.100									
Surr: Decachlorobiphenyl	51.6		50.00		103	8.21	173				
Surr: Tetrachloro-m-xylene	44.7		50.00		89.5	20.2	168				

Sample ID: LCS1-25417	SampType: LCS	Units: mg/Kg				Prep Date: 8/7/2019			RunNo: 53124		
Client ID: LCSS	Batch ID: 25417					Analysis Date: 8/8/2019			SeqNo: 1049851		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.957	0.100	1.000	0	95.7	49.1	163				
Aroclor 1260	1.08	0.100	1.000	0	108	40.5	163				
Surr: Decachlorobiphenyl	54.2		50.00		108	8.21	173				
Surr: Tetrachloro-m-xylene	43.9		50.00		87.8	20.2	168				

Sample ID: LCS2-25417	SampType: LCS	Units: mg/Kg				Prep Date: 8/7/2019			RunNo: 53124		
Client ID: LCSS	Batch ID: 25417					Analysis Date: 8/8/2019			SeqNo: 1049852		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	1.05	0.100	1.000	0	105	54.2	150				
Surr: Decachlorobiphenyl	61.7		50.00		123	8.21	173				
Surr: Tetrachloro-m-xylene	56.6		50.00		113	20.2	168				



Date: 8/9/2019

Work Order: 1908085
CLIENT: NVL Labs, Inc.
Project: Rainier Commons

QC SUMMARY REPORT
Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: 1908024-001ADUP		SampType: DUP		Units: mg/Kg-dry		Prep Date: 8/7/2019			RunNo: 53124		
Client ID: BATCH		Batch ID: 25417		Analysis Date: 8/8/2019					SeqNo: 1049854		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.0914						0		30	
Aroclor 1221	ND	0.0914						0		30	
Aroclor 1232	ND	0.0914						0		30	
Aroclor 1242	ND	0.0914						0		30	
Aroclor 1248	ND	0.0914						0		30	
Aroclor 1254	ND	0.0914						0		30	
Aroclor 1260	ND	0.0914						0		30	
Aroclor 1262	ND	0.0914						0		30	
Aroclor 1268	ND	0.0914						0		30	
Total PCBs	ND	0.0914						0		30	
Surr: Decachlorobiphenyl	45.7		45.68		100	8.21	173		0		
Surr: Tetrachloro-m-xylene	39.1		45.68		85.5	20.2	168		0		

Sample ID: 1908024-001AMS	SampType: MS	Units: mg/Kg-dry			Prep Date: 8/7/2019			RunNo: 53124			
Client ID: BATCH	Batch ID: 25417				Analysis Date: 8/8/2019			SeqNo: 1049855			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.781	0.0854	0.8539	0	91.5	51.1	159				
Aroclor 1260	0.829	0.0854	0.8539	0	97.1	44.2	155				
Surr: Decachlorobiphenyl	40.2		42.70		94.1	8.21	173				
Surr: Tetrachloro-m-xylene	40.5		42.70		94.9	20.2	168				

Sample ID: 1908024-001AMSD	SampType: MSD	Units: mg/Kg-dry				Prep Date: 8/7/2019			RunNo: 53124		
Client ID: BATCH	Batch ID: 25417	Analysis Date: 8/8/2019							SeqNo: 1049856		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.849	0.0947	0.9472	0	89.6	51.1	159	0.7814	8.26	30	
Aroclor 1260	0.873	0.0947	0.9472	0	92.1	44.2	155	0.8290	5.15	30	
Surr: Decachlorobiphenyl	45.3		47.36		95.7	8.21	173		0		
Surr: Tetrachloro-m-xylene	44.1		47.36		93.2	20.2	168		0		

Work Order: 1908085
CLIENT: NVL Labs, Inc.
Project: Rainier Commons

QC SUMMARY REPORT
Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: 1908024-001AMSD		SampType: MSD		Units: mg/Kg-dry		Prep Date: 8/7/2019		RunNo: 53124			
Client ID: BATCH		Batch ID: 25417				Analysis Date: 8/8/2019		SeqNo: 1049856			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Client Name: **NVL**

Work Order Number: **1908085**

Logged by: **Clare Griggs**

Date Received: **8/7/2019 9:35:00 AM**

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Coolers are present? Yes ☐ No ☒ NA ☐
- Bulk materials.**
4. Shipping container/cooler in good condition? Yes ☒ No ☐
5. Custody Seals present on shipping container/cooler?
(Refer to comments for Custody Seals not intact) Yes ☐ No ☐ Not Required ☒
6. Was an attempt made to cool the samples? Yes ☐ No ☐ NA ☒
7. Were all items received at a temperature of $>0^{\circ}\text{C}$ to 10.0°C * Yes ☐ No ☐ NA ☒
8. Sample(s) in proper container(s)? Yes ☒ No ☐
9. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
10. Are samples properly preserved? Yes ☒ No ☐
11. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
12. Is there headspace in the VOA vials? Yes ☐ No ☐ NA ☒
13. Did all samples containers arrive in good condition(unbroken)? Yes ☒ No ☐
14. Does paperwork match bottle labels? Yes ☒ No ☐
15. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
16. Is it clear what analyses were requested? Yes ☒ No ☐
17. Were all holding times able to be met? Yes ☒ No ☐

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Sample	22.4

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Original



Fremont
Analytical

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record & Laboratory Services Agreement

Date: 8-7-2019 Page: 1 of 1

Laboratory Project No (internal): 1908085

Project Name: RANIER COMMONS

Special Remarks:

RL of <1.0 PPM NEEDED

Client: NVL LABS

Project No: 2012-994

Address: 4708 AURORA AVE N

Collected by: DAVE LEONARD

City, State, Zip: SEATTLE WA

Location: 3100 AIRPORT WAYS SEATTLE WA

Telephone: 206-805-6412

Report To (PM): MARCUS GLADEN

Sample Disposal: ☐ Return to client ☐ Disposal by lab (after 30 days)

Fax:

PM Email: MARCUS.G@NVL.LABS.COM

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GV/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6010 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
1 080619-155-22-S28-6-19	8-6-19	12:20	CONCRETE														
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

**Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished x Date/Time 8-7-19 0935

Received x Date/Time 8/7/19 0935

Relinquished x

Received x

Turn-around Time:

☐ Standard

☐ 3 Day

☒ 2 Day

☐ Next Day

Same Day

(specify)



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January 19, 2017

Shimon Mizrahi
Rainier Commons LLC
918 S. Horton Street, Suite 1018
Seattle, WA 98134

Subject: Polychlorinated Biphenyl (PCB) Substrate Sampling
IPWP2 Segment A, South Wall Building 15
Rainier Commons, LLC

Site Address: 3100 Airport Way S, Seattle, WA

NVL Project#: 2012-494

Dear Mr. Mizrahi:

Rainier Commons, LLC retained NVL Laboratories to conduct substrate sampling at the Old Rainier Brewery site located at 3100 Airport Way South, Seattle, Washington and this letter has been prepared to convey the results.

The purpose for collecting the sample from the concrete substrate material on the building was to test for the potential presence of residual PCB's following the work that removed the PCB-containing paint coatings.

The sample was collected on October 13, 2016 from the concrete material on the west corner of the south side of building 15 pursuant to Condition 8 of the EPA's Risk Based Work Plan Approval for Rainier Commons and pursuant to NVL's Substrate Sampling Plan (Exhibit 8 to Phase I IPWP) with all sampling protocols and procedures referenced therein.

The following table presents the result of the substrate test results and compares the results against the substrate screening limit established in the Substrate Sampling Plan of 1 part per million (ppm).

Stormwater samples were also collected on the same date that the concrete substrate sample was collected. Those results are addressed and reported in a separate catch basin sampling report. The stormwater samples are not related to the substrate sampling addressed here.

Sampling Date	Sample Number	Sampling Location	Substrate Type	Sample Results (PPM)	Result More Than 1 PPM?
10/13/16	101316-Bulk	Building 15 South Wall	Concrete	0.522	NO
PPM = Parts per million or milligrams per kilogram (mg/kg)					

Prepared By



Marcus Gladden
Industrial Hygienist
NVL Laboratories

Reviewed By



Munaf Khan
Project Manager
Laboratory Director / President

Attachment: Laboratory Testing Report, Fremont Analytical Batch No. 1610258



Fremont
Analytical

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

NVL Labs, Inc.
Marcus Gladden
4708 Aurora Ave. N.
Seattle, WA 98103

RE: 2012-494
Work Order Number: 1610258

October 21, 2016

Attention Marcus Gladden:

Fremont Analytical, Inc. received 3 sample(s) on 10/14/2016 for the analyses presented in the following report.

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample Moisture (Percent Moisture)

Total Metals by EPA Method 200.8

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Mike Ridgeway
Laboratory Director

DoD/ELAP Certification #L2371, ISO/IEC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)

Original

www.fremontanalytical.com

Page 1 of 17
RCLLC 0007200

CLIENT: NVL Labs, Inc.
Project: 2012-494
Work Order: 1610258

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1610258-001	101316-MHG-PCB	10/13/2016 10:30 AM	10/14/2016 8:55 AM
1610258-002	101316-MHG-M	10/13/2016 10:30 AM	10/14/2016 8:55 AM
1610258-003	101316-BULK	10/13/2016 10:30 AM	10/14/2016 8:55 AM

CLIENT: NVL Labs, Inc.**Project:** 2012-494

WorkOrder Narrative:

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (1610258-003A) required Acid Cleanup Procedure (Using Method No 3665A).

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (1610258-003A) required Florisil Cleanup Procedure (Using Method No 3620C).

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Analytical Report

Work Order: 1610258

Date Reported: 10/21/2016

Client: NVL Labs, Inc.

Collection Date: 10/13/2016 10:30:00 AM

Project: 2012-494

Lab ID: 1610258-001

Matrix: Stormwater

Client Sample ID: 101316-MHG-PCB

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Polychlorinated Biphenyls (PCB) by EPA 8082

Batch ID: 15174

Analyst: WC

Aroclor 1016	ND	0.00995		µg/L	1	10/20/2016 9:19:00 PM
Aroclor 1221	ND	0.00995		µg/L	1	10/20/2016 9:19:00 PM
Aroclor 1232	ND	0.00995		µg/L	1	10/20/2016 9:19:00 PM
Aroclor 1242	ND	0.00995		µg/L	1	10/20/2016 9:19:00 PM
Aroclor 1248	ND	0.00995		µg/L	1	10/20/2016 9:19:00 PM
Aroclor 1254	ND	0.00995		µg/L	1	10/20/2016 9:19:00 PM
Aroclor 1260	ND	0.00995		µg/L	1	10/20/2016 9:19:00 PM
Aroclor 1262	ND	0.00995		µg/L	1	10/20/2016 9:19:00 PM
Aroclor 1268	ND	0.00995		µg/L	1	10/20/2016 9:19:00 PM
Total PCBs	ND	0.00995		µg/L	1	10/20/2016 9:19:00 PM
Surr: Decachlorobiphenyl	84.0	40.8-168		%Rec	1	10/20/2016 9:19:00 PM
Surr: Tetrachloro-m-xylene	102	10-119		%Rec	1	10/20/2016 9:19:00 PM



Analytical Report

Work Order: 1610258

Date Reported: 10/21/2016

Client: NVL Labs, Inc.

Collection Date: 10/13/2016 10:30:00 AM

Project: 2012-494

Lab ID: 1610258-002

Matrix: Stormwater

Client Sample ID: 101316-MHG-M

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Metals by EPA Method 200.8

Batch ID: 15184

Analyst: TN

Chromium	2.28	0.500		µg/L	1	10/20/2016 2:22:15 PM
Copper	10.3	0.500		µg/L	1	10/20/2016 2:22:15 PM
Lead	3.91	0.500		µg/L	1	10/20/2016 2:22:15 PM
Nickel	6.90	0.500		µg/L	1	10/20/2016 2:22:15 PM
Zinc	64.8	1.50		µg/L	1	10/20/2016 2:22:15 PM



Analytical Report

Work Order: 1610258

Date Reported: 10/21/2016

Client: NVL Labs, Inc.

Collection Date: 10/13/2016 10:30:00 AM

Project: 2012-494

Lab ID: 1610258-003

Matrix: Solid

Client Sample ID: 101316-BULK

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Polychlorinated Biphenyls (PCB) by EPA 8082

Batch ID: 15189

Analyst: WC

Aroclor 1016	ND	0.180		mg/Kg-dry	1	10/21/2016 3:15:00 PM
Aroclor 1221	ND	0.180		mg/Kg-dry	1	10/21/2016 3:15:00 PM
Aroclor 1232	ND	0.180		mg/Kg-dry	1	10/21/2016 3:15:00 PM
Aroclor 1242	ND	0.180		mg/Kg-dry	1	10/21/2016 3:15:00 PM
Aroclor 1248	ND	0.180		mg/Kg-dry	1	10/21/2016 3:15:00 PM
Aroclor 1254	0.522	0.180		mg/Kg-dry	1	10/21/2016 3:15:00 PM
Aroclor 1260	ND	0.180		mg/Kg-dry	1	10/21/2016 3:15:00 PM
Aroclor 1262	ND	0.180		mg/Kg-dry	1	10/21/2016 3:15:00 PM
Aroclor 1268	ND	0.180		mg/Kg-dry	1	10/21/2016 3:15:00 PM
Total PCBs	0.522	0.180		mg/Kg-dry	1	10/21/2016 3:15:00 PM
Surr: Decachlorobiphenyl	106	30.8-168		%Rec	1	10/21/2016 3:15:00 PM
Surr: Tetrachloro-m-xylene	101	30.1-143		%Rec	1	10/21/2016 3:15:00 PM

Sample Moisture (Percent Moisture)

Batch ID: R32336

Analyst: WF

Percent Moisture	5.39	0.500		wt%	1	10/17/2016 9:05:34 AM
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Work Order: 1610258
CLIENT: NVL Labs, Inc.
Project: 2012-494

QC SUMMARY REPORT
Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID	MB-15189	SampType: MBLK		Units: mg/Kg		Prep Date: 10/20/2016			RunNo: 32480		
Client ID:	MBLKS	Batch ID: 15189		Analysis Date: 10/21/2016					SeqNo: 614906		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.100									
Aroclor 1221	ND	0.100									
Aroclor 1232	ND	0.100									
Aroclor 1242	ND	0.100									
Aroclor 1248	ND	0.100									
Aroclor 1254	ND	0.100									
Aroclor 1260	ND	0.100									
Aroclor 1262	ND	0.100									
Aroclor 1268	ND	0.100									
Total PCBs	ND	0.100									
Surr: Decachlorobiphenyl	50.2		50.00		100	30.8	168				
Surr: Tetrachloro-m-xylene	52.4		50.00		105	30.1	143				

Sample ID	LCS1-15189	SampType:		LCS		Units:		mg/Kg		Prep Date:		10/20/2016		RunNo:		32480	
Client ID:	LCSS	Batch ID:		15189						Analysis Date:		10/21/2016		SeqNo:		614904	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual					
Aroclor 1016		1.02	0.100	1.000	0	102	21.7	138									
Aroclor 1260		0.989	0.100	1.000	0	98.9	20.8	137									
Surr: Decachlorobiphenyl		50.9		50.00		102	30.8	168									
Surr: Tetrachloro-m-xylene		53.4		50.00		107	30.1	143									

Sample ID	LCS2-15189	SampType:	LCS	Units:	mg/Kg	Prep Date:	10/20/2016	RunNo:	32480		
Client ID:	LCSS	Batch ID:	15189	Analysis Date:				10/21/2016	SeqNo:	614905	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	0.931	0.100	1.000	0	93.1	32.8	151				
Surr: Decachlorobiphenyl	53.6		50.00		107	30.8	168				
Surr: Tetrachloro-m-xylene	49.4		50.00		98.8	30.1	143				

Work Order: 1610258
CLIENT: NVL Labs, Inc.
Project: 2012-494

QC SUMMARY REPORT

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID	1610312-001ADUP	SampType:		DUP		Units:		mg/Kg-dry		Prep Date:		10/20/2016		RunNo:		32480	
Client ID:	BATCH	Batch ID:		15189						Analysis Date:		10/21/2016		SeqNo:		614895	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual				
Aroclor 1016		ND	0.102						0			30					
Aroclor 1221		ND	0.102						0			30					
Aroclor 1232		ND	0.102						0			30					
Aroclor 1242		ND	0.102						0			30					
Aroclor 1248		ND	0.102						0			30					
Aroclor 1254		ND	0.102						0			30					
Aroclor 1260		ND	0.102						0			30					
Aroclor 1262		ND	0.102						0			30					
Aroclor 1268		ND	0.102						0			30					
Total PCBs		ND	0.102						0			30					
Surr: Decachlorobiphenyl		52.0		51.11		102	30.8	168			0						
Surr: Tetrachloro-m-xylene		52.9		51.11		104	30.1	143			0						

Sample ID	1610312-001AMS	SampType:	MS	Units:	mg/Kg-dry	Prep Date:	10/20/2016	RunNo:	32480		
Client ID:	BATCH	Batch ID:	15189			Analysis Date:	10/21/2016	SeqNo:	614896		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	1.36	0.101	1.011	0	135	27.1	166				
Aroclor 1260	1.18	0.101	1.011	0	116	20.6	168				
Surr: Decachlorobiphenyl	65.3		50.57		129	30.8	168				
Surr: Tetrachloro-m-xylene	65.4		50.57		129	30.1	143				

Sample ID	1610312-001AMSD	SampType: MSD		Units: mg/Kg-dry		Prep Date: 10/20/2016		RunNo: 32480			
Client ID:	BATCH	Batch ID: 15189				Analysis Date: 10/21/2016		SeqNo: 614897			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	1.06	0.100	1.005	0	106	27.1	166	1.363	24.8	30	
Aroclor 1260	1.23	0.100	1.005	0	123	20.6	168	1.175	4.86	30	
Surr: Decachlorobiphenyl	54.7		50.23		109	30.8	168		0		
Surr: Tetrachloro-m-xylene	54.4		50.23		108	30.1	143		0		

Work Order: 1610258
CLIENT: NVL Labs, Inc.
Project: 2012-494

QC SUMMARY REPORT
Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID	1610312-001AMSD	SampType: MSD			Units: mg/Kg-dry		Prep Date: 10/20/2016			RunNo: 32480		
Client ID:	BATCH	Batch ID: 15189			Analysis Date: 10/21/2016					SeqNo: 614897		
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Work Order: 1610258
CLIENT: NVL Labs, Inc.
Project: 2012-494

QC SUMMARY REPORT
Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID	MB-15174	SampType: MBLK		Units: µg/L		Prep Date: 10/19/2016			RunNo: 32459		
Client ID:	MBLKW	Batch ID: 15174		Analysis Date: 10/20/2016			SeqNo: 614419				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.0101									
Aroclor 1221	ND	0.0101									
Aroclor 1232	ND	0.0101									
Aroclor 1242	ND	0.0101									
Aroclor 1248	ND	0.0101									
Aroclor 1254	ND	0.0101									
Aroclor 1260	ND	0.0101									
Aroclor 1262	ND	0.0101									
Aroclor 1268	ND	0.0101									
Total PCBs	ND	0.0101									
Surr: Decachlorobiphenyl	102		100.8		101	40.8	168				
Surr: Tetrachloro-m-xylene	75.8		100.8		75.2	10	119				

Sample ID	LCS1-15174	SampType: LCS		Units: µg/L		Prep Date: 10/19/2016		RunNo: 32459			
Client ID:	LCSW	Batch ID: 15174				Analysis Date: 10/20/2016		SeqNo: 614416			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.355	0.0101	1.006	0	35.3	34.9	134				
Aroclor 1260	0.423	0.0101	1.006	0	42.0	33.5	147				
Surr: Decachlorobiphenyl	86.5		100.6		85.9	40.8	168				
Surr: Tetrachloro-m-xylene	42.1		100.6		41.8	10	119				

Sample ID	LCS2-15174	SampType: LCS		Units: µg/L		Prep Date: 10/19/2016		RunNo: 32459			
Client ID:	LCSW	Batch ID: 15174				Analysis Date: 10/20/2016		SeqNo: 614418			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1254	0.424	0.00993	0.9930	0	42.7	34	121				
Surr: Decachlorobiphenyl	92.2		99.30		92.8	40.8	168				
Surr: Tetrachloro-m-xylene	59.0		99.30		59.4	10	119				



Date: 10/21/2016

Work Order: 1610258
CLIENT: NVL Labs, Inc.
Project: 2012-494

QC SUMMARY REPORT
Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID	LCS1D-15174		SampType: LCSD		Units: µg/L		Prep Date: 10/19/2016		RunNo: 32459		
Client ID:	LCSW02		Batch ID: 15174				Analysis Date: 10/20/2016		SeqNo: 614417		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.570	0.00996	0.9960	0	57.2	34.9	134	0.3548	46.5	30	R
Aroclor 1260	0.599	0.00996	0.9960	0	60.1	33.5	147	0.4230	34.4	30	R
Surr: Decachlorobiphenyl	115		99.60		116	40.8	168		0		
Surr: Tetrachloro-m-xylene	80.0		99.60		80.4	10	119		0		

NOTES:

R - High RPD observed, spike recoveries are within range.

Sample ID	1610258-001ADUP		SampType: DUP		Units: µg/L		Prep Date: 10/19/2016		RunNo: 32459		
Client ID:	101316-MHG-PCB		Batch ID: 15174				Analysis Date: 10/20/2016		SeqNo: 614413		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.0101						0		30	
Aroclor 1221	ND	0.0101						0		30	
Aroclor 1232	ND	0.0101						0		30	
Aroclor 1242	ND	0.0101						0		30	
Aroclor 1248	ND	0.0101						0		30	
Aroclor 1254	ND	0.0101						0		30	
Aroclor 1260	ND	0.0101						0		30	
Aroclor 1262	ND	0.0101						0		30	
Aroclor 1268	ND	0.0101						0		30	
Total PCBs	ND	0.0101						0		30	
Surr: Decachlorobiphenyl	173		100.7		172	40.8	168		0		S
Surr: Tetrachloro-m-xylene	196		100.7		195	10	119		0		S

NOTES:

S - Outlying surrogate recovery(ies) observed (high bias). Sample is non-detect; no further action required.



Work Order: 1610258
CLIENT: NVL Labs, Inc.
Project: 2012-494

QC SUMMARY REPORT

Sample Moisture (Percent Moisture)

Sample ID	1610194-001ADUP	SampType:	DUP	Units:	wt%	Prep Date:	10/17/2016	RunNo:	32336		
Client ID:	BATCH	Batch ID:	R32336			Analysis Date:	10/17/2016	SeqNo:	611704		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	8.78	0.500						8.500	3.27	20	



Date: 10/21/2016

Work Order: 1610258
CLIENT: NVL Labs, Inc.
Project: 2012-494

QC SUMMARY REPORT
Total Metals by EPA Method 200.8

Sample ID	MB-15184	SampType:	MBLK			Units:	µg/L			Prep Date:	10/20/2016			RunNo:	32445		
Client ID:	MBLKW	Batch ID:	15184							Analysis Date:	10/20/2016			SeqNo:	614098		
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual				
Chromium		ND	0.500														
Copper		ND	0.500														
Lead		ND	0.500														
Nickel		ND	0.500														
Zinc		ND	1.50														

Sample ID	LCS-15184	SampType: LCS		Units: µg/L		Prep Date: 10/20/2016		RunNo: 32445				
Client ID:	LCSW	Batch ID: 15184				Analysis Date: 10/20/2016		SeqNo: 614099				
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium		104	0.500	100.0	0	104	85	115				
Copper		100	0.500	100.0	0	100	85	115				
Lead		48.1	0.500	50.00	0	96.2	85	115				
Nickel		103	0.500	100.0	0	103	85	115				
Zinc		94.5	1.50	100.0	0	94.5	85	115				

Sample ID 1610255-001ADUP	SampType: DUP		Units: µg/L		Prep Date: 10/20/2016		RunNo: 32445				
Client ID: BATCH	Batch ID: 15184				Analysis Date: 10/20/2016		SeqNo: 614101				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.546	0.500						0.8560	44.1	30	
Copper	3.10	0.500						3.074	0.713	30	
Lead	1.12	0.500						1.154	2.59	30	
Nickel	ND	0.500						0.5495	28.5	30	
Zinc	17.2	1.50						18.80	9.02	30	



Date: 10/21/2016

Work Order: 1610258
CLIENT: NVL Labs, Inc.
Project: 2012-494

QC SUMMARY REPORT
Total Metals by EPA Method 200.8

Sample ID	1610255-001AMS			SampType:	MS		Units:	µg/L		Prep Date:	10/20/2016		RunNo:	32445	
Client ID:	BATCH			Batch ID:	15184					Analysis Date:	10/20/2016		SeqNo:	614102	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual		
Chromium		524	0.500	500.0	0.8560	105	70	130							
Copper		504	0.500	500.0	3.074	100	70	130							
Lead		235	0.500	250.0	1.154	93.4	70	130							
Nickel		499	0.500	500.0	0.5495	99.7	70	130							
Zinc		493	1.50	500.0	18.80	94.8	70	130							

Sample ID	1610255-001AMSD		SampType: MSD		Units: µg/L		Prep Date: 10/20/2016		RunNo: 32445		
Client ID:	BATCH		Batch ID: 15184				Analysis Date: 10/20/2016		SeqNo: 614103		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	523	0.500	500.0	0.8560	104	70	130	523.6	0.155	30	
Copper	503	0.500	500.0	3.074	100	70	130	504.4	0.297	30	
Lead	238	0.500	250.0	1.154	94.7	70	130	234.6	1.39	30	
Nickel	502	0.500	500.0	0.5495	100	70	130	499.2	0.642	30	
Zinc	513	1.50	500.0	18.80	98.9	70	130	492.9	4.05	30	

Client Name: **NVL**

Work Order Number: **1610258**

Logged by: **Erica Silva**

Date Received: **10/14/2016 8:55:00 AM**

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☒ No ☐
5. Custody Seals present on shipping container/cooler?
(Refer to comments for Custody Seals not intact) Yes ☐ No ☐ Not Required ☒
6. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
7. Were all items received at a temperature of $>0^{\circ}\text{C}$ to 10.0°C^* ? Yes ☒ No ☐ NA ☐
8. Sample(s) in proper container(s)? Yes ☒ No ☐
9. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
10. Are samples properly preserved? Yes ☒ No ☐
11. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
12. Is there headspace in the VOA vials? Yes ☐ No ☐ NA ☒
13. Did all samples containers arrive in good condition(unbroken)? Yes ☒ No ☐
14. Does paperwork match bottle labels? Yes ☒ No ☐
15. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
16. Is it clear what analyses were requested? Yes ☒ No ☐
17. Were all holding times able to be met? Yes ☒ No ☐

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp $^{\circ}\text{C}$
Cooler	1.5
Sample	2.1

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Original



Fremont

Analytical

3600 Fremont Ave N.
Seattle, WA 98103

Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record and Laboratory Services Agreement

Date: 10/13/16

Laboratory Project No (internal): 1610258
Page: 1 of: 1

Client: NVL LABS
Address: 4708 AURORA AVE N
City, State, Zip: SEATTLE, WA, 98103
Telephone: 206-547-0100 Fax: _____

Project Name: _____
Project No: 2012-494 Collected by: MARUS GUARDEN
Location: 3100 AIRPORT WAY S SEATTLE WA
Report To (PM): MARUS GUARDEN
PM Email: MARUS.G@NVL.LABS.COM

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*																Comments
				VOCs (EPA 8260 / 624)	GV/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)***	EDB (8011)			
1 101316 - MH6 - PCB	10/13/16	10:30	SW										X						2x 1L BOTTLES
2 101316 - MH6 - M	10/13/16	10:30	SW										X	T					5 METALS
3 101316 - BULK	10/13/16	10:30	SL										X						
4																			
5																			
6																			
7																			
8																			
9																			
10																			

RL of 0.05 ug/L
NEEDED

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite Turn-around times for samples received after 4:00pm will begin on the following business day.

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished [Signature] Date/Time 10/14/16 8:55 Received [Signature] Date/Time 10/14/16 0855

Relinquished _____ Date/Time _____ Received _____ Date/Time _____

Special Remarks:
RL of 0.05 ug/L needed for aqueous PCB sample

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance